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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,198	04/27/2000	Robert P. Loce	XER20341	2240

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EXAMINER

AZARIAN, SEYED H

ART UNIT PAPER NUMBER

2625

DATE MAILED: 05/27/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/559,198

Applicant(s)

LOCE ET AL.

Examiner

Seyed Azarian

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

RESPONSE TO AMENDMENT

1. Applicant's arguments, filed 2/17/2004, see page 6 through 9, with respect to the rejection of claims 1-18 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kondo et al (U.S. patent 5,914,819) and Rumley (U.S. 4,961,117).

Drawings

2. The drawings are objected to because of very poor quality of handwritten. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 8-18, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (U.S. patent 5,914,819) in view of Rumley (U.S. 4,961,117).

Regarding claim 1, Kondo discloses a method of altering an image representation to adjust for artifacts attributable to an array lens, the method comprising;

obtaining a characterization at selected locations across the array lens (column 3, lines 40-59, properly setting an adjustment mechanism for adjusting optical characteristics which vary owing to a lens arrangement);

from the characterization determining compensation parameters for a plurality of locations across the array lens (column 8, line 58 through column 9, line 5, performing correction).

However Kondo fails to disclose, "storing the determined compensation". On the other hand Rumley in the same field of enhancing images teaches (column 4, lines 32-56, a microprocessor during a compensation cycle that takes place upon initialization or at any time user desires, the correction factors are stored in the compensation RAM and also on application software).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Kondo invention according to the teaching of Rumley because it provides image data memory, which stores data for a certain number of consecutive image lines, that can easily be implemented in an images device such as copy machine or printer.

Regarding claim 2, Kondo discloses the method as set forth in claim 1, wherein the artifacts attributable to the array lens are induced during image scan using the array lens, resulting in an electronic image representation including the artifacts, the method

further comprising, applying the compensation parameters to the electronic image representation including the artifacts, resulting in a post-compensated electronic image representation (column 7, lines 40-56, processing error occurs).

Regarding claim 3, Kondo discloses the method as set forth in claim 1, wherein the artifacts attributable to the array lens are induced during image output using the array lens, the method further comprising, applying the compensation parameters to an electronic image representation without the artifacts, resulting in a pre-compensated electronic image representation (column 11, lines 29-44, errors correction).

Regarding claim 4, Kondo discloses the method as set forth in claim 1, wherein the obtaining a characterization step comprises: measuring optical performance of the array lens at a plurality of locations across the array lens (column 3, line 51 through column 4, line 6, an adjustment mechanism for adjusting the lens and optical position).

Regarding claims 5 and 6, Kondo discloses the method as set forth in claim 1, wherein the obtaining a characterization step comprises estimating optical performance of the array lens at a plurality of locations across the array lens (column 4, lines 7-24, constituting an imaging lens are arranged to be substantially symmetrical and adjustment mechanism for adjusting the position of some lens).

Regarding claim 8, Kondo discloses an imaging apparatus comprising, at least one light source an array lens which focuses emitted light from the light source onto a desired receptor, the array lens inducing artifacts in an image representation on the receptor (see claim 1, also column 11, lines 54-60, for restricting a beam of light and is arranged between the movable lens barrels).

Regarding claim 10, Kondo discloses the imaging apparatus as set forth in claim 8, wherein the imaging apparatus employs the array lens to produce a physical image from a desired image (column 10, lines 29-41, forming original image).

Regarding claim 11, Kondo discloses the imaging apparatus as set forth in claim 8, wherein the array lens comprises a plurality of adjacent rods arranged in a one-dimensional array (column 11, line 61 through column 12, line 5, the lens barrel is guided by the guide rail).

Regarding claim 15, Kondo discloses the digital imaging method as set forth in claim 13, wherein the compensating step comprises, altering the image representation to adjust for spatially varying errors induced the array lens (column 11, lines 29-38).

Regarding claims 9, 11-13, recite similar limitation as claims 1, 2, 8 and 10 are similarly analyzed.

Regarding claims 14 and 16-18 recites similar limitation as claims 2, 10 and 15 are similarly analyzed.

Allowable claims

5. The following is an examiner's statement of reasons for allowance.

The claim 7, is allowable due to determining compensation parameter for a plurality of location across the array lens with an iterative restoration method selected from set of ML-EM method sharpening filters, windowed-wiener spectrum and spatial convolution.

These key features in combination with the other features of the claimed invention are neither taught nor suggested by the art of record.

Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (5,719,680) to Yoshida et al is cited for color printer and printing method with improved color registration through skew-correction of misaligned printing heads.

U.S. patent (5,942,745) to Kline et al is cited for apparatus and methods for digital imaging with reduced periodic artifacts.

U.S. patent (4,741,045) to Denning is cited for optical character isolation system, apparatus and method.

U.S. patent (5,898,790) to Laurence is cited for digital imaging and analysis system.

U.S. patent (6,101,283) to Knox is cited for show-through correction for two-sided, multi-page documents.

U.S. patent (5,832,139) to Batterman et al is cited for method and apparatus for determining degrees of freedom of a camera.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (703) 306-

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5907. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seyed Azarian

Patent Examiner

Group Art Unit 2625

May 13, 2004



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